

10/517,994

[001]

SHIFTING DEVICE HAVING SHIFT RECOGNITION FEATURE ⇐

[011]

In a shifting assembly for a multiple-gear variable speed motor vehicle transmission having a central selector or shifting shaft, which is mounted in the transmission housing such that it can be rotated and displaced axially, the rotation of the selector or shifting shaft causes the selection of a sliding sleeve to be actuated in a shift gate, and the subsequent axial displacement causes the gear to be shifted. To form the selection patterns, a device is provided on the selector or shifting shaft or on an auxiliary shaft controlled by the selector or shifting shaft, wherein the device bears a rod. The rod acts in conjunction with a contoured element, for example a lever, which is mounted in the transmission housing such that it can swivel. The outline of the contoured element mirrors the contours of the selection patterns and is spring-loaded via a spring element against the rod. When the selector or shifting shaft is turned, which corresponds to a selection process, the rod slides along the outline of the contoured element. Depending upon the design of the contoured outline and thus dependent upon the desired selection pattern, a greater or lesser amount of force must be applied during the rotation of the selector or shifting shaft, in which process the contoured element is pressed against the spring element. In this manner, the selection force can be transferred very directly to the contour. By adjusting the shape of the contour, any selection pattern can be created. The selection torque is transferred to the contoured element independently of the axial position of the selector or shifting shaft or of an auxiliary shaft that is controlled by the selector or shifting shaft. As a result, in one advantageous embodiment, the device is positioned on the selector or shifting shaft, or on an auxiliary shaft that is

2/14/08 - 11:10 AM

- 2 -

10/517,994

controlled by the selector or shifting shaft, such that said device can be displaced axially, while the rod is not displaced axially relative to the contoured element. ~~In another advantageous embodiment, a rotatable cylinder is provided on the rod such that it can be displaced axially on the rod, and operates in conjunction with the contoured edge of the contoured element, while the device itself is axially stationary on the selector or shifting shaft or on an auxiliary shaft that is controlled by the selector or shifting shaft. In this manner a very low level of friction between the rod and the contoured edge is ensured. The cylinder rolls along the contoured edge and can simultaneously be displaced axially on the rod, or the rod can be displaced axially within the cylinder. This type of design is particularly advantageous if the cylinder is equipped along its circumference with a groove in which the edge of the contoured element engages, so that the cylinder is held axially by the edge of the contoured element.~~